



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/583,097	08/02/1999	Marc Tremblay	004-1391-1	7166

22120 7590 02/17/2005
ZAGORIN O'BRIEN GRAHAM LLP
7600B N. CAPITAL OF TEXAS HWY.
SUITE 350
AUSTIN, TX 78731

EXAMINER

HUISMAN, DAVID J

ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

09/583,097

Applicant(s)

TREMBLAY, MARC

Examiner

David J. Huisman

Art Unit

2183

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 07 February 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The reply was filed after the date of filing a Notice of Appeal, but prior to the date of filing an appeal brief. The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 9-36 as set forth in the final rejection.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☐ Other: _____.


Applicant argues on page 8 of the remarks, in substance that:

"...the Office's analysis seems to suggest (and perhaps relies upon reasoning that a pipeline stall acts to transform a single-cycle operation into a multiple-cycle operation. See Final Action (paragraph 12). To the contrary, an operation that is performed in one cycle is still performed in one cycle whether or not, after performance of that operation, the pipeline is stalled for one or more subsequent cycles."

Although fully considered by the examiner, the above argument is deemed non-persuasive for the following reasons:

The examiner asserts that the multi-cycle grouping claimed by applicant is taught by Sites without the stall cycles (therefore, the examiner is not necessarily relying on stalling to show multi-cycle grouping). However, the stalling, if and when it occurs, will add cycles to the grouping process. Clearly, if an instruction can propagate through a pipeline, without stalling, in 5 cycles (for instance), then when stalling occurs, the instruction will take $5+X$ cycles to propagate through the pipeline (where X is the number of stall cycles). Sure, the actual operation itself takes just 5 cycles, but that is transparent to the user which sees the operation complete in $5+X$ cycles.

However, as previously mentioned, assuming no stalls exist, grouping with dependency checking occurs over plural cycles in stages S0-S3 of the pipeline. Intra-group dependency checking, for instance, would include the fetch and swap stages. Clearly, no grouping can occur without having fetched instructions to group. So the grouping process begins with fetching a pair/group of instructions (1 cycle). Next, in the swap stage, the instructions of the instruction pair/group are compared to one another to make sure that they pass the first test in order to be grouped and issued together. See column 9, lines 45-61. That is, each instruction's grouping with the other of the pair/group is dependent on the other instruction's type (intra-group dependency). The swap stage is a second cycle. So, already the grouping process has taken 2 cycles. Next, in the decode stage, the instructions are decoded (third cycle) and after that may be issued during the issue stage. Inter-group dependency checking will occur after decoding sometime and before issue. See Fig.3 and column 6, lines 18-21. Therefore, the entire grouping, dependency checking, and issuing process takes at least 4 cycles (for stages S0-S3). Any stall cycles will extend the amount of cycles. Also, it is not at all defined within the claims what is meant by intra-and inter-group dependency checks. It appears from applicant's argument on page 8 (argument 4) that applicant has a different interpretation of intra-group checking than the examiner does. The examiner asserts that the intra-group checking of Sites has nothing to do with registers. Instead, it has to do with instruction types as only certain types of instructions are able to issue together (and this is done before the decode stage).


EDDIE CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100